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THE DELUGE.

A deluge as extensive, at least, as the inhabited earth, is a matter of direct revelation. But this declaration of divine writ does not satisfy the speculative genius of man. He inquires, how can this be possible, where is the great reservoir which could furnish a sufficient quantity of water, to cover the earth fifteen cubits above the tops of the highest mountains. It may furnish some amusement to refer to ancient theories, and speculations upon this subject, as well as profit to discover how futile are all attempts to account for the wonderful works of God, when our theories are not based upon direct revelation, or the principles of sound philosophy. We propose in this article to state, briefly, some ancient theories upon this subject, with such reflections, as would naturally arise.

DR. BARNET'S THEORY.

He supposed the earth to have been perfectly spherical, without valley, mountain or sea, and the interior to have been filled with an ocean of water. Under the action of solar rays, the earth's crust became dry, and broken by fissures, and by the rarefaction and expansion of the enclosed vapors, the fragments of the crust fell into the interior in such quantities, as to cause an overflow of water sufficient to drown the inhabitants. He maintained, also, that the plane of the equator coincided with the plane of the ecliptic, so that the same season would uniformly prevail in the same latitude. Without referring to principles of philosophy, which are utterly at variance with this theory, it is inconsistent with the plain declarations of sacred writ. We are expressly informed, that two rivers flowed through the garden of Paradise, and as all rivers are entirely supported by rain water, a broken and mountainous surface is indispensably necessary for their existence. Again, it declares that "Seed time and harvest, and cold and heat, and summer and winter, and day and night, shall cease no more." If there had been, previously to the deluge, at the same place, "cold and heat, and summer and winter," the plane of the ecliptic never could have been displaced, as Dr Barnet supposes.

MR. RAY'S THEORY.

He supposed the earth to contain a vast quantity of water, and by changing the centre of gravity in the earth, the waters would rush forth, and successively overflow the different parts of the earth. This theory involves the fallacy of *causa non causa*, or does not assign an adequate cause for the change of the centre of gravity. A change of the centre of gravity can result, only from a change of the materials composing the globe.

DR. HOOK'S THEORY.

He maintained that the earth was a large reservoir of water, and by rendering it prolate, or by compressing it in opposite parts, the water would be forced out, and thus overflow the earth. By this means, we might account for the overflow of two opposite zones on the earth, but, by an action of this kind, a part of the earth would become more highly elevated, and, consequently, farther raised above the surface of the water.

DR. HALLEY'S THEORY.

He ascribes the deluge to a shock of a comet, or some transient body, upon the earth, by which the polar and diurnal motion of the earth was changed. It is urged against this theory, that the deluge must have been sudden, and not gradual as it is represented in the Scriptures. In such a tumultuous rush of waters, as must have occurred on that occasion, it is difficult to conceive how the ark, and its treasures, could have been preserved. Nothing short of a remarkable interposition of Divine agency could have preserved it.

MR. WHISTON'S THEORY.

Mr Whiston supposed the interior of the earth to have been filled with water, and as a large comet approached the earth, a high tide was produced. By the attractive power of the comet, and by the tide thus produced, the crust of the earth would assume an oval form. In assuming this form, innumerable fissures would be made through the outer crust, from which the waters would rush by attractive influence. This outpouring of the water, would explain what Moses meant, by "the fountains of the great deep being broken up." As the comet passed toward the sun, its tail enveloped the earth, and furnished so much water to its atmosphere, that it rained forty days. This explains what is meant, "by the windows of heaven being opened." How very philosophical is this theory, and how scriptural!

(To be continued.)

JERUSALEM.

Among all the glories that adorn the page of history, there is none around which the mind of the christian scholar clings with so intense interest, as around Jerusalem. Its very name is a watch-word to call up associations of the deepest interest, and to waken recollections, which, as they rush on their burning way through the thronged avenues of memory, thrill on every fibre of the soul. It comes to us, veiled in the misty drapery of years gone by, and hung with the shadowing clouds of far off antiquity.

Looking back through the dreamy period of four thousand years, we see, standing amid the olive-crowned, and vine-girt hills of Syria, a gorgeous city,—it bears the holy name, Jerusalem—righteousness, and peace. Strange name for a capital city in an age when war was considered the only employment worthy the character of man.

Centuries pass by—the dark waters of oblivion roll on, sweeping away city after city, and nation after nation, shrouding their very names in the pall of everlasting forgetfulness; and during this long period no mention is made of Jerusalem. Has she too perished? Has her memorial been blotted out forever? No! He, who holds the destinies of nations, has reserved her for a high, and holy purpose: he has destined her to become the theatre of the most important events that ever occurred on earth.

Years roll on,—the plains of Syria become the scene of transactions, that must forever remain anomalies on the page of history. A people that have groaned for centuries beneath the yoke of Egyptian slavery, have burst their chains, and now they come in a people's might, to claim the country that God had promised to their fathers, long ages before.

Years pass away. The strange Egyptian exotic has taken deep, and wide root in the soil of Syria. The mysterious Jerusalem has become the capital of a mighty nation. The Almighty has chosen it above all the cities of the earth, to set his name there,—a gorgeous temple, the proudest monument of architectural skill the world ever saw, crowns the summit of one of her rising mountains, and the smoke of the sacrificial offerings, ascends perpetually from her altars to the Great I Am.

She has become, in martial prowess, a successful rival for her most powerful contemporaries—she has spread her commerce over all the known

world—the fame of the wisdom and glory of her monarchs, have spread to the uttermost parts of the earth—her bards have tuned the lyre to note that an angel's harp might envy, and “waked the echoes of eternity,” with the most exalted strains of poetry—her prophets have rolled back the misty curtain of futurity, and revealed events that had been hid from ages and from generations, and that yet look forward centuries of ages for their accomplishment. But a change comes over the spirit of our reminiscence. Jerusalem, that has so long basked in the sunshine of Divine favor, has grown rich on the bounties of God, and has forgotten the giver; therefore God has withdrawn his favor from her, and delivered her over to the hands of her enemies—the sword of the Assyrian has prevailed against her—the victorious Nebuchadnezzar has led away her captive children to the lone streams of Babylon—the harps of her bards now hang in silence.

“On willow trees that wither there!” and the hearts that were wont to leap with gladness, as their merry tones re-echoed amid the hills and vales of Judea, now “weep when they remember Zion.”

Seventy years pass away, and again the daughter of Zion rejoices as she sees her children returning to her embrace. Again the demolished walls of Jerusalem are set up—again the snow-white battlements of the temple adorn the summit of Moriah—again the morning and evening sacrifice smoke on the altar—and again the pious worshippers assemble, at the return of their stated feasts, to mingle their prayers to the God of their fathers.

Tracing down the page of history, Jerusalem still continues to be the scene of many mighty events, till in the fullness of time one occurs, the importance of which, far surpasses all the rest.—For centuries the finger of prophecy had been pointing to an individual, who should make his appearance here and establish a kingdom, whose bounds should be “from the rivers, to the ends of the earth,” and of “whose years there should be no end.” At length the moment has arrived when these prophecies are to be accomplished. ‘Tis midnight. Suddenly, celestial music stirs the blue quiet of Judea’s sky, and voices in the viewless air, announce to the wondering shepherds that to them a Savior is born; then, quick as thought, the angel bands join in the song, “Glory to God in the highest, on earth peace, and good will towards men.” But though he, whose birth was so miraculously announced, came to his own, his own received him not, but spurned him from them, crying with scorn, we will not have this man to rule over us, and finally to complete their awful wickedness, “slew him, and hanged him on a tree.” This deed filled up the cup of sin to ill-fated Jerusalem, and sealed her doom. Soon the avenging Roman was called in to execute the wrath of an angry God. Then ensued a scene of woe, the

like of which no eye had seen, and which no pen can adequately describe. Jerusalem was razed to her foundations—the plough-share of destruction was driven to the beam amid her ruins, and fifteen hundred thousand of her sons perished with her. The heart sickens at the rehearsal of the dreadful tale:—gladly we close the volume of history and turn away from a scene so painful. OMEGA.

FREEDOM OF EXPRESSION.

In practical life men are always situated between antagonistic points. The unending war of the elements renders it impossible that it should be otherwise; and they are reduced to the necessity either of contending, with one against the other, or of being laid open to the merciless attacks of both; for strife, in a common cause, unites enemies. In maintaining in theory, as well as making practical use of, the free expression of the thoughts, untrammelled by sect or party, unbiased by prejudice, this same difficult warfare is encountered. The actors in the contest are placed in a fearful dilemma—compelled to seize one horn and to contend manfully with the opposing, or to be a mark, at which both may aim their deadly weapons.

On the one hand; pure christianity, true philosophy, justice, and all the nobler qualities of their natures side with them; while, on the other, they must withstand all the doubly charged volleys of wrath, and indignation, levelled against them, and their cause, by the aristocratic politicians, the bigoted ecclesiastics and the false philosophers with which the age is flooded.

Men’s natural inclinations incline them to the exercise of power, as well as excite them with a desire of possessing it. To see whole nations stoop at his nod; hemispheres quail at his wrath, and to be the moulder, and fashioner of every sentiment put forth by his subjects, is the height of happiness to the worm whose lot it is, to stand at the helm of a kingdom’s affairs.

To be a tyrant, man has but very little to learn, to be a true republican he has much, very much to unlearn. That we frequently hear men disclaiming, in clamorous tones, against the unqualified free expression of the thoughts is no wonderful thing, in this age of novelties.

The experience of all past ages has taught us, that no advantage can be ultimately gained by bringing to our aid, legislative enactments, in the defence of our opinions, in order to shield us from the withering touch of criticism; or to defend the principles themselves from the bold, and fearless attacks of freethinking, untrammelled, searches after truth.

Truth is hydra-headed. The more you attempt to banish it from existence, the surer it is to live. Imprison one for opinion’s sake, and two will join him, and defend his cause. Rack one, and a whole tribe will instantly rise in rebellion. And, indeed no great has been the counteracting effect

of such means, to do away what some deem heretical, that the world has concluded that to treat whatever comes attired in the garb of novelty, with silent contempt, is, by far, the better part of valor.

It matters very little how wild or fanatical men’s opinions may be; let no one dare attempt to crush them by legislative enactments. Let their utterance be free; and when once they are plainly before the world, enter the arena, and give them manly battle! Scatter them by the all prevailing power of truth, wrest off the enchanting spell that hangs around them, and lay open their real deformity, and you have done more to arrest error, than all the cruelties that ever disgraced the Spanish inquisition could possibly do.

The hollow pretence of some, that the interests of truth demand that an unqualified freedom of expression should be curtailed, although it would have been considered, doubtless, as the foundation stone of the temple of liberty, by the Jesuitical minions of the papal throne in the middle ages, world, now, when men have learned that it is cheaper to think, and speak for themselves, than to hire others to think and speak for them—be scouted by every man true to the advantages afforded him by the nineteenth century, as unworthy of a moment’s consideration. He who would attempt to force such a restriction upon us, cannot, certainly, present very strong claims either to profundity in the theory of human governments, or to the possession of free principles.

The possession of ardent patriotism, and the exercise of the principles of religious toleration will lead one to a directly opposite course. Every principle dominant in his bosom will prompt him to lend all his energies to the support of “Deity’s last, best gift to man.”—*liberty of expression*. Without it every other gift is but an insult, and a mockery. Without it, Reform has reached its farthest limit, science and sound learning are at a perfect stand, and, in fine, all that exalts and ennobles man, and distinguishes him, so highly, from the lower orders of existence, is a mere trifle, hardly worth possessing.

Can a greater insult be offered to man, than to place him in an existence, where the means of improvement offer themselves on every hand and yet keep him back from the exercise of the only privilege by which he might be beneficial to his fellows?

Would you curse the world! would you hear the death knell of our liberties tolling through these peaceful valleys, and happy villages, the thunderings of a civil war, booming over our green hill tops? Then crush free, untrammelled expression. Would you bless earth, and her inhabitants? would you see the enterprizes you hold most dear, striding rapidly onward; and the exalted privileges, now confined to a few, becoming universal? Abridge not the unalienable rights of man.

DETA.

HATEFUL TEACHERS.

It is generally supposed that parents fully understand the object of education. The father declares that in educating his child, his design is to fit him for active and happy life, but if we were to judge of the end, by the means, we should not dream that he ever thought of his declaration.—How frequently we find parents employing teachers, who are destitute of every qualification,—men they would not trust with a dollar; and yet they will intrust to them the future destiny of their children.

Teachers are often complete *rustics* in their manners, possessing no refinement, or affability whatever; and, more than this, they are frequently accomplished clowns. The result is, their pupils ape them to perfection. But says one, the subject of manners is a small matter. A small matter that your children grow up gossips and gawkies, and thence preclude the possibility of their ever associating with the refined, and respected? This you are pleased to call a small matter.

Teachers are not unfrequently possessed of the most unkind dispositions, stubborn, crabbed and morose. They can never speak to a scholar, without *snarling*. Their highest pleasure is to make their pupils tremble. These are the men "who have caused many a child to stammer, that, by nature, spake plainly." If the remark be true, "that the man who cannot leave his mark upon his pupil, ought never to have one," then surely the scholars of such teachers must be marked with *hatfulness*. Our school houses cannot be too strongly guarded against the intrusion of such monsters. Their "track is cold, and cheerless, and desolating" to every trace of social happiness; blasting as the Simoons of Arabia.

The frigid look of such a teacher, is enough to freeze the timid child into an icicle.

Teachers are frequently practical idlers, waiters on taverns and stores, spending their evenings in telling vulgar stories, and boasting of their mighty pugilistic feats in conquering some unfortunate lad, whom cruelty has already nearly ruined.—Such teachers not uncommonly become the *leaders* in the sensual pleasures of the day; attending all the public parties and balls in the region, and, that too, in company with their scholars;—instigators of card playing, introducers of dice-boards, practices just calculated to train up a school of gamblers. But as a necessary concomitant of these foul practices—profanity must be called in to lend her gallantry, and all this, 'before their pupils. Yet, this is not the worst; we have even in New England, school teachers, who are miserable drunkards. Such are the men to whom many of our youth are intrusted. Degraded wretches!—Corrupters of youth! While such things remain, how can it be but that we must have vicious children. Vicious youths, and vicious communities follow in the train of vicious school masters.—Vice! is written over their school room doors.

Parents, this is your fault, arouse to its importance. Employ instructors who are men of high moral feeling, men of refinement, men possessed of gentleness and of courtesy. DELTA.

OCEANIC CURRENTS.

Oceanic currents are produced chiefly by winds. The most extensive current of this kind is the Gulf Stream. This flows out of the Indian Ocean, around the Cape of Good Hope, passes northward along the coast of Africa to the equator, thence across the Atlantic; being increased by the Trade winds; and impinging against South America, it is turned northward, and continues along the coast of the United States even to the banks of Newfoundland; from whence it turns east and south east across the Atlantic, returning to the coast of Africa, to supply the deficiency of waters there. It is estimated that this current covers a space two thousand miles in length, and three hundred and fifty in breadth. Its velocity is very variable; but may be stated at from one to three, and even four miles per hour; its mean rate being one and one half miles. A current sets northward between America and Asia, through Behring's Straits, which passes around the northern extremity of America and flows out into the Atlantic in two currents, one called the Greenland current, which passes along the American continent, at the rate sometimes of three or four miles per hour until it meets and unites with the Gulf Stream, near the banks of Newfoundland, where the velocity is two miles per hour; the other sets into the Atlantic between America and Europe. It is these two currents that convey icebergs as far south as the fortieth degree of north latitude before they are melted. Among the Japanese Islands a current sets northeast, sometimes as strong as five miles per hour. Another sets around Cape Horn from the Pacific into the Atlantic Ocean. A constant current sets into the Mediterranean through the Straits of Gibraltar, at less than half a mile per hour. It has been conjectured, but not proved, that an under current sets outward through the same strait, at the bottom of the ocean. Mr Lyell also suggests that the constant evaporation going on in that sea, may so concentrate the waters holding chloride of sodium, (common salt,) in solution, that a deposit may now be forming at the bottom. But the deepest sounding yet made there, (5880 feet,) brought up only mud, sand and shells. Numerous other currents of less extent exist in the ocean, which it is unnecessary to describe. They form, in fact, vast rivers in the ocean, whose velocity is usually greater than that of the larger streams upon the land.

DR. HITCHCOCK.

Galileo first suspected that air is a ponderous body, and Toricelli first demonstrated it. Air is about 828 times lighter than water. Heat raises air to such an extent, that it may be made to occupy 600 or 600 times the space it did before.

THE SEVEN WONDERS OF GEOLOGY.

I wonder how deep, in a fathomless sleep,
Lay the earth in her primitive state,
When Jehovah passed by, with his fiat so high,
And each particle ran to its mate!

I wonder how low, the old primaries go,
Mysteriously building so long,
That time sped away, in long ages 'ere they
Could form a foundation so strong.

I wonder what power, thus caused them to tower,
And lift their gray heads to the skies,
While the loftiest hills, have the granite for sills,
And their tops interspersed as they rise.

I wonder how trees, and the fish of the seas,
So venturesome, (the truth nature shocks)
That they should intrude in a manner so rude,
Even into the centre of rocks.

I wonder what time, in old Ocean's prime,
Little insects so busy could be,
As to form in vast files, those numerous isles
Springing up in the midst of the sea!

I wonder below what I never can know,
Of those billows whose fiery tides lave
The crust of the earth, since the morn' of its birth,
So it rises and falls with its wave.

I wonder what hour, in its thundering power,
Creation's vast wheel shall be stayed,
And the internal fire bursting forth in its ire,
Earth's funeral pile shall be made.

DELIA.

GREAT RESULTS FROM SMALL CAUSES.

There is a connection between small and great things in nature, and in the affairs of human life. The mere tasting of the forbidden fruit by our first parents, was small and trifling in itself, but contemplate the results. It produced a knowledge of good and evil, and rendered them unhappy and morally dead. For their sake, the earth was cursed. By that act, sin was introduced into the world, and the seeds of depravity, which make man the scourge of man, were universally sown.

Anger, hatred, revenge, envy, malice and intemperance are monsters, breathing destruction to the felicity of man; yet like the coral rock, the lofty pine, or a mighty river, they may be traced to small beginnings. A party-colored coat, and a dream aroused the envy and hatred of the brethren of Joseph, that they determined to slay him; but the finger of Providence overruled their evil designs, and he became the savior of his aged father and his numerous family. Years are made of seconds, and mountains of sands.

The single act of one nation or one man has produced results the most astonishing, and revolutions the most important. A single movement in the heat of battle has frequently decided the fate of nations. The perfidious act of Helen and

Paris, was the cause of a ten years' war, in which the ancient kingdom of Troy was overthrown, and thousands of valiant soldiers lost their lives.

The ambition or revenge of a single king has often involved nations in war, and deluged the earth in blood. See Alexander overturning the kingdom of Persia, and conquering the world.—Caesar plunging himself and his followers into fifty pitched battles; slaying one million one hundred and ninety-two thousand men, and overturning the liberties of his own country. Napoleon, rising from obscurity, from a hill of dirt in the sea, to the most powerful Emperor of Europe, dethroning and constituting kings at his pleasure.

From a few adventurers a numerous people have sprung up to inhabit the vast continent of America.

A small tax on tea, aroused the spirit of the Revolution, and resulted in the independence of the United States.

The disease of one man, has often spread through whole cities, and particles wafted in the breeze, have spread pestilence through whole countries. One vice produces thousands, and a vicious character is formed from small beginnings. At first, perhaps a slight variation from virtue, begins a course of vice, that will poison the heart and sink the character in depths of infamy. The intemperate man became so by degrees, and now he is lost, and fallen indeed. The gambler first stakes a trifle, till at last he throws all upon the capricious wheel of chance, and his fortune and his character are the price he pays to this alluring vice.

But we will turn our attention to some of the more happy results from small causes. A man made impressions from letters cut in the bark of a tree and from that circumstance the art of printing was brought to perfection. Time was, when a copy of the Holy Writ could hardly be obtained by the most wealthy, and even princes were scarcely able to possess it. Now every person on earth is able to buy this valuable treasure. By the simple invention of printing, the Gospel has been sent to all the kingdoms of the earth, and the history of remote ages has been preserved.

Another observed something attached to his iron shod shoe which proved to be the load stone; hence the origin of the magnet needle, which guides the mariner across the pathless ocean. The falling of an apple suggested to the mind of Newton the laws of gravitation, and a boy playing with two spectacle glasses, observed the spire of the Meeting house magnified, and inverted which aroused the curiosity of his father, and led Galileo to make further experiments with glasses, till a telescope was perfected, by which man is enabled to discover the sublime works of God.

NORTHFIELD.

On account of the changes in the atmosphere a man sustains 1-2 tons weight at one time more than at another.

THE DEW DROP.

Beneath the thick foliage of a spreading vine, grew a rare, and beautiful plant. Pleasure passed in her daily rambles to admire the climbing tendrils of the haughty vine, and Beauty, as she wandered in search of Flora's choicest flowers, to deck her fair brow, stood enraptured, at the sight of its rich clusters. But none, ah! none, observed the sequestered spot, where flourished the tender plant. Its balmy fragrance, presented no attractions for Fashion's heartless throng; its opening bud and spreading blossom, lured not the sons of mirth; and the thoughtless multitude passed gaily on, unconscious of its surpassing loveliness. No gentle shower moistened its delicate fibres, and no kind hand supported its reclining blossom. Thus neglected, this precious flower flourished and grew, till the surrounding earth, became parched, by a withering drought. Then its leaflets withered—its petals drooped, and it had perished unseen, had not a dew-drop fallen, to lend a charm to its decaying loveliness. Sparkling in the bright rays of a morning sun, it attracted one of Religion's votaries, who had been to pay her devotion at Virtue's shrine. Hastily she approached the spot, and raised its slender stalk. Enraptured she gazed on its matchless beauty, then shook off the pearly dew-drop, and transferred it to a fairer clime, and more congenial soil, where it flourishes a perennial plant, and knows no decay. Lovely flower! thou shalt ever be cherished in grateful remembrance. Thou art an emblem of moral worth, whose possession, unheeded by the gay world, lives unnoticed and unknown. She is surrounded by the fair ones of earth who listen with delight, to Flattery's voice. Beauty, Wealth and Pleasure pass by, but they observe not her, who wanders in Poverty's lowly vale. Still she survives the dark night of obscurity, and retains her sacred trust, till the withering rays of Adversity exhaust the springs of affection. There nature struggles—moral worth declines. She can no longer survive, and she yields beneath Affliction's stroke. But none, ah! none witness her grief, till a silent tear steals down her pallid cheek. Religion observes it, and hastens to apply the balm of consolation, to her wounded spirit. She gently whispers "all thy mourning shall be turned into joy." Kindly she wipes away the falling tear, and bids it mingle with the dew-drop; then on a Seraph's pinions bears her to that fair clime, where coronals of immortal amaranth, glitter forever, upon the heads of the redeemed.

ELMIRA.

PHILOSOPHY OF STORMS.

The following article is an able review of Mr. Espy's theory of storms, taken from a late number of the Merchant's Magazine.

"Franklin was, we believe, the first to discover that our great northeast storms 'travel against the wind.' A violent rain having set in at Philadel-

phia, from the northeast, he naturally enough supposed that the storm came from that direction, and was greatly surprised, on consulting the passengers from New York and Boston, to find that it commenced raining in New York several hours after the storm set in at Philadelphia, and that the time of its reaching Boston was still later. The same anomaly was also observed by Dr. Mitchell; but it remained for Mr. Redfield, of New York, to establish, by the most satisfactory proofs, the route pursued by these storms. In his papers on this subject he has fully demonstrated that they often originate in the Windward Islands of the West Indies, where they are mostly small and round, and progress in a curve toward the northwest, enlarging as they advance, and at latitude 30, inclining more to the north. Beyond this they curve to the northeast, and as far as he has been able to trace them, they pursue a direction more or less toward the east.

Mr. Redfield has also attempted to show that in all our great storms, the wind gyrates in the form of a whirlwind; and in this he has been followed on the other side of the Atlantic, by Colonel Reid, who has published a volume full of interesting details on the subject, in which he attempts to develop the law of storms by means of facts with a view to practical use in navigation. But neither of these gentlemen, so far as we know, have succeeded in tracing this supposed gyration to its cause, or pointed out the dependence between clouds, winds, hail, and the other phenomena of storms. Mr. Espy has taken a step beyond them, and confidently believes that he has discovered the key which is to unlock all the mysteries of meteorology, and disclose the hidden causes which produce clouds, water spouts, tornadoes, land spouts, variable winds, and barometric fluctuations.

That result of Dr. Dalton's experiments on the aqueous vapor in the atmosphere, by which its amount in any given space may be determined by means of a glass of water and a thermometer, may be said to constitute the basis of Mr. Espy's theory, and therefore requires a passing notice. If the reader will take a tumbler of water of the same temperature as the air, and drop into it a small piece of ice, he will find, as the water cools, that the dew will settle on the outside of the tumbler. The temperature at which this dew begins to form is called the dew point.

The dew on the tumbler is condensed from the air by the cold communicated from the tumbler, and it may also be condensed by the same degree of cold produced in a different way. It is found that air is cooled by expansion produced by diminished pressure, and hence, when the receiver of an air pump is rapidly exhausted, and the air within expands sufficiently to cool it down to the dew point, moisture will make its appearance on the sides of the receiver, and an artificial cloud will appear. Mr. Espy supposes that it is precisely in the same way that clouds are formed in the laboratory of nature.

If a dozen feather beds were piled together one above another, the lower ones would be pressed closer than the upper, because they would not only have to sustain their own weight, but also the weight of all those above them. For the same reason the atmosphere which lies next to the surface of the earth, is subjected to much greater pressure than that which is piled up above, and this pressure must gradually decrease as you ascend. It follows then that if a current of air should pass upward from the surface of the earth, it would be subjected to a constantly decreasing pressure, and would consequently expand: as it expanded it would grow cold, and when it reached the temperature of the dew point, it would begin to condense its vapor into sensible moisture, and thus form a cloud. This process, Mr Espy contends, takes place constantly in the operations of nature. Certain portions of the air becoming more heated or more highly charged with aqueous vapor than others, are thus made specifically lighter, and consequently rise, and when the dew point is high, these upmoving currents do not find their equilibrium until they are sufficiently expanded by the diminished pressure to which they are subjected to reduce their temperature to the point of forming dew, when a cloud will begin to appear.

The reduction of temperature which would thus be produced by the expansion of ascending air, Mr Espy finds by experiment to be about one degree for every one hundred yards of ascent; and hence, if an upmoving current of air is ever produced in the operations of nature, it is easy to calculate how high it must rise before it begins to condense its vapor into visible cloud. For example: if, in a summer's day, the thermometer stands at 80°, and the dew point is 70°, then air must be cooled 10° before it will begin to condense its vapor into cloud. Consequently, if it cools one degree for every one hundred yards that it rises, then when it attains an elevation of ten hundred yards, it will be cooled down to the point of forming dew, when its vapor will begin to condense, and the base of a forming cloud become immediately visible. The bases of all forming clouds in the same neighborhood should therefore be nearly on the same level.

Again: it is known to every chemist that vapor cannot be converted into water, without releasing a large quantity of caloric, known in technical language as the *caloric of elasticity*, and thus producing a considerable amount of sensible heat. If ice is exposed to heat, caloric combines with it and forms water; if water is exposed to heat caloric combines with it and forms steam or vapor; and when vapor is converted back to water, this caloric (heat) must necessarily be released; and, according to Mr. Espy, its agency in producing wind, rain, hail, barometric fluctuations, and all the sublime and astonishing phenomena which attend our most violent storms, has hitherto been altogether overlooked. He finds, by calculating according to well known chemical laws, that the *caloric of elasticity*

released during the condensation of vapor while a cloud is forming, will expand the air in the cloud about eight thousand cubic feet for every cubic foot of water formed by the process of condensation.

If this is true, and it seems to be placed beyond a doubt, then the air within a cloud is both lighter and warmer than that by which it is surrounded.—That it is warmer is proved by actual observation as well as by Mr. Espy's experiments. Saussure tells us that when he was enveloped in a cloud on the side of a mountain his thermometer rose higher than in the sun; and both Durant and Gay-Lussac note the same fact while passing through clouds in a balloon. The uniform depression of the barometer under large clouds and during all our great storms, would seem also to confirm Espy's other position, and place beyond a doubt the fact that the air in the cloud is warmer, and therefore lighter than the surrounding atmosphere.

If then, a cloud can be formed by a current of air moving upwards, and the cloud thus formed is lighter than the circumambient air, it necessarily follows that the equilibrium of the atmosphere must be more or less disturbed by every formation of this character. For if a lofty cloud by the evolution of its latent caloric, makes the air within it warmer and lighter, then will the air around it rush from all sides towards its base, and upwards into its centre; and as the wind in its upward course comes under less pressure, it will become gradually colder until it reaches the temperature of the dew point, when it will begin to condense its vapor, thus feeding the cloud with fresh materials for its expansion and perpetuity, and communicating to it, as it were, a self-sustaining power by which it moves on, perhaps for days together, as we often behold in the operations of nature, enlarging as it advances, causing high winds wherever it passes, and fertilizing the earth with its refreshing showers.

We often hear of sticks, grass, sand, &c., frozen in the hail, which falls from one of these clouds, and the curious fact has given rise to much speculation. The solution is now, however, perfectly simple. The current of ascending air which dashes with such fearful velocity upward into the cloud, and carries with it these lighter substances from below, also carries up the water which has been condensed from the saturated air, and throwing all out together at the side of the cloud in the region of congelation, they are frozen, together in the form of hail, and descend by their own gravity to the earth. Large sheets of water, may also be thrown out and frozen in the same way, which breaking in their fall, will account for the great hail stones and "pieces of ice" spoken of by Howard, which fell at Salisbury, and for the "pieces of ice" of almost every form which fell during the passage of the Orkney spout in 1818.

Under the pressure of 30,000 pounds to the square inch, air becomes a liquid.

EDUCATION.

BY E. THOMSON.

EDUCATION should be what its name imports. It is derived from two words—*e* and *duco*, which signify to lead out; and it means development. There is a very great error prevalent on this subject. Were we to consult the general opinion of parents, tutors, and pupils, we should suppose that education was the very reverse of development. When a parent directs his teacher in the education of his children, he informs him that he wishes them to have so much knowledge communicated, say of grammar, arithmetic, Latin, &c. He sends his child to school as he does to the merchant, to get so much, as though *knowledge*, like *cloth*, could be measured by yard-sticks. The schoolmaster generally provides himself with a stock of the saleable branches of education, and prepares to supply all orders in his line. He regards his scholars as the druggist does his phials. He takes their minds one by one, and pours in, pours in, from his larger vessel, of the required material, as though it were oil, and carefully corks it up, fearing lest the least motion should spill the precious article. The parent upon receiving his child acts upon the same principle, and examines the child's head to see if it be full. The poor child, too, always thinks of education as of a process of filling up. He goes into the school-room as he would go into prison, expecting to have his mind confined, and handled, and filled up, and shook down. Now the truth is that education is *following out* nature, instead of confining and crossing her. It consists in leading out the mind. The school-room should be an enchanted spot, and the child should enter it as the candidate for the prize entered into the Olympic games, or as the Indian engages in the gigantic pastimes of the wilderness. It is the arena for mental sport and mental struggle, with a view to mental development. An ancient teacher, Leucippus, understood the principle, when he directed the pictures of joy and gladness to be hung around his school-room. I am aware that much useful knowledge is communicated in the halls of science. There is no branch of science which does not contribute its share of valuable facts. The ordinary branches of *English education* derive their chief value from their being available to the practical purposes of life; but in reference to most branches of knowledge, the primary object is the development, discipline, and strength of the intellectual powers.—*Cincinnati Rep.*

The pressure of the atmosphere upon every square foot of the earth amounts to 2160 pounds. An ordinary sized man, supposing his surface to be 14 square feet, sustains the enormous pressure of 30,240 pounds. If there were an opening into the interior of the earth, into which air could descend, at the depth of about 34 miles, air would be as dense as water; at the depth of 48 miles, it would be as dense as quicksilver; and at the depth of about 50 miles as dense as gold.

"WE DO ALL FADE AS A LEAF."

Alas! how soon we die!
How calmly pass away!
Like stars upon the sky,
That fade into the day.

We spend one moment here,
In *tasting* earth's delights,
Then pass, while yet the draught
Our longing hearts invites.

Ah! wherefore must we die,
Just as our lives begin?
Why leave forever, joys,
That sweet to us have been?

Say, is it not because
Fleeting, earth's joys are made;
While those, beyond the sky,
Will never, *never* fade?

Because our dearest joys,
Our sweetest pleasures, even,
Do not belong to earth:
They're only *drops of Heaven*.

G. T. T.

THE EXCELLENCY OF THE SCRIPTURES.

Our theme is the Bible. If we are to prize one book above another, that book is the Bible. In point of true value, and real excellence, the highest possible regard should be paid to that inestimable volume, which has shed its radiant beams upon the moral darkness and gloom, that has spread itself over the universe. This book carries us back to the commencement of creation, when this world was spoken into existence—when chaos was called to order—when motion began—when time was born, and light burst forth. It makes us acquainted with the original nations, the earliest inhabitants of the earth. If we are admirers of antiquity, and desire to become acquainted with the characters of those that lived before the flood, there is no other book that can reveal the mysteries of the past. It gives us the history of the rise and fall of nations, the destruction of cities, and the overthrow of empires. The Bible! a book proceeding, not from human wisdom or foresight, but from the inspiration of the Almighty. We are not to receive it as some romantic, or chimerical story, calculated to fill the mind with visionary notions, but as the "storehouse of truth, the fountain of wisdom and piety, the repository of all that is great in idea, awful in importance, desirable in experience, and venerable in excellence." It reveals to us the character and perfections of God, and the relation we sustain to him. Its truths find their way into the deep recesses of the human heart, and expose its depravity, in the light of eternity. It invites the wanderer to return to God, and not to seek his happiness, in the fading and transitory joys of earth. Upon the truth of the Scriptures, hang the eternal destiny of man. This is his only unerring

guide. Were he destitute of this invaluable treasure even the happiness of *this life* would be transient, and uncertain. Man would be like the mariner tossed upon the rough ocean without rudder or compass; or as the soldier in the heat of battle, without a shield. By the aid of this blessed book, he is enabled to shape his course for the haven of *eternal* repose. He sees the hopes of immortality shining out, brightly and beautifully upon every page. In short, we may say, all that man can want, or wish, or hope to render his state here happy, beyond *description*, and to secure to him a happy passport to the skies, is found in the Bible. Would he see the flowers of rhetoric,—the scriptures surpass the most renowned authors of antiquity in beauty of expression, and simplicity of style. Would he see history portrayed in all its loveliness and grandeur—it is found in the Bible. Homer himself never reached the sublimity of Moses' songs, nor can there be found a poem in ancient, or modern literature, that can be compared with the song of David, when he exclaimed; "He bowed the heavens also and came down; and darkness was under his feet. And he rode upon a cherub, and did fly; and he was seen upon the wings of the wind." What heathen writings can be compared, in beauty, and excellence, with the writings of the prophets. Hear the exclamation of Jeremiah, while mourning over the wayward Israelites. "Oh that my head were waters, and mine eyes a fountain of tears." If we wish for plainness of style, what can be more eloquently impressive, than the representations of David, weeping over his beloved, yet fallen Absalom, or Joseph revealing himself to his brethren. Compare the writings of Homer with that of Isaiah, describing the majesty of God, "Seeing that it is He that stretcheth out the heavens as a curtain, and spreadeth them as a tent to dwell in." Or with Nahum, while he foresees, in spirit, proud Nineveh fall before an invincible army. Read likewise Daniel, declaring the vengeance of the Almighty upon Belshazzar, which caused that voluptuous king to fear and tremble. Finally the scriptures far exceed all heathen writings. The one relates to earth, the other to heaven; the one is chained down to time, the other takes hold on eternity; the one is from man, the other is from God.

CAROLUS.

ORATION,

Delivered before the Literary Societies of the Wesleyan University, August 3rd, 1841.

BY REV. PROF. JOHN NEWLAND MAFFITT.

GENTLEMEN OF THE SOCIETIES,—

The subject that I have selected for the present occasion is THE INTELLECTUAL AND MORAL POWER OF EDUCATION.

The American community is eminently utilitarian. The question ever is prone to come up respecting any thing or project—what is it good for?

What can it effect towards promoting the happiness of human life? To this test every moral theory that gains admission on American ground, must be brought; and the answer, which either scrutiny or experience records, must be the measure of its acceptance or rejection. Few are the theories that obtain in this country for the sake of theory. The reasons are obvious. The age of monkish devotion to letters, for the sake of letters, has past away. The mouldy books of the cloisters, and their no less mouldy book-worms, the withered crones of the ancient Universities, the strenuous and acute men, who were able to write a hundred volumes on the Greek article, or strike with unerring aim the precise shade of difference between two atoms of matter when reduced to the infinitesimal fraction of nothing, have all gone down to the tomb of the Capulets. *Sic transit*, is inscribed on the tattered escutcheon that hangs listlessly on the cobwebbed halls, where once they flourished and are forgot.

In this utilitarian age, study, and letters, and science, are resorted to for the one great purpose of giving moral power to man. The boy learns because he wishes to become an influential man, and is desirous of sustaining his desired station in society. He uses his book as a stepping stone to consideration, or as a polishing stone to give edge and brilliancy to that intellect with which he is to engage in the keen encounter of life.

The internal world of Symmes which he so plausibly demonstrated, with its hollow globes and refracted sunshine, that seemed to be as well pleased to give light to the dwellers inside the shell, as to those who had taken an outside berth on our northern planet, never awakened a single dream of its reality in the mind of the matter-of-fact part of our community. The colleges were respectful listeners to all Mr. Symmes could say about his untraveled world, whose map stretches along the inner crust of the foot-ball which was set in motion when Adam was the solitary passenger, at least, on the outside. But the colleges were not convinced. No navigator had ploughed a furrow on the rim that bent over from the supernatural to the infernal side of the shell. All the phenomena of navigation could be reconciled to the outside figure of a spheroidal globe, whose surface might be dust and vapor and mind-stirred particles of water, but whose centre must be the condensed focus of matter, where gravitation presses water into stone, and the ponderous rock into liquid flame. In the centre of the earth, sober Geology could only find the great central furnace which heats the globe, whose seething fires find here and there their volcanic vents, and breathe their hissings into the heavens. Thus the theory of John Cleves Symmes passed away like a dream, with the many inventions with which the world in modern times has been so constantly perplexed. Mere theories are the chaff which the wind drives from the threshing floors of intellect. No reason-

able, well balanced mind mistakes them for the wheat.

More modern scholastics, however, seem destined to eclipse by the wildness of their vagaries, all the venerable hypotheses of antiquity, and our new world bids fair to excel in folly and extravagance all the system-makers of olden time. The refinements of transcendentalism are elaborated with a patience and a skill which puts competition at defiance, while their bold conceits are dignified with the name of theories, the votaries of which are challenging the faith of the world by the pedantic mask of learning, with which this intellectual strife has been decorated. *Cui Bono?*—*What is the good?*—has been the outcry of true philosophy in every age of the world. As the insect called the Cicada or Katydid, which fills your southern groves with contradictory music, one voice asserting that Katy did and the other that Katy didn't, until ten thousand disputants take up the vexed question, and wreak its merits upon every ear that is not split by its clangor—so in the world of mind, have the Eureka's,—I have found something new,—of ten thousand theories, been answered by the twice ten thousand *Cui Bonos*,—*what is it good for*,—of the cold-blooded utilitarians. It is well it is so. Let every thing be judged by its use. Were it otherwise, the whole world would be afloat like some unstable island, broken from its moorings in the midst of a boiling ocean. The energies of mind would be expended in overtaking shadows only to grasp their air, while all the teachings of antiquity would be forgotten in the ceaseless whirl of uncertain experiment. It may be assumed that every thing powerful or useful, depends on immutable principles. The far-reaching arrow was never shot from a nerveless bow! The sun, that lifts so broad a smile over earth, ocean and sky, must of necessity be an orb of light that beggars the lesser orbs that float like motes in his mighty eye; so any thing, that produces so strong an effect on human character as education does, must of necessity have fixed and immutable principles. What were the principles on which education was based thousands of years ago, and what were then its influences upon human character, must be those same principles and influences now. The operations of the moral and intellectual world have certainly as much method and rule as those of the natural world. The one indeed, has not been as well studied as the other. Had it been so, we should long since have known how to get up a moral as well as a physical steam engine; we could as well have had a domestic moral earthquake or thunder-storm to clear the atmosphere of error, as a mimic earthquake to shake an acre of ground, or a puny cloud of vapor curling up in a chemist's laboratory, through which he shoots his bolts of the electric fluid, and makes it melt into rain.

But the Grecian maxim, *know thyself*, has been little heeded by man. Analysis will show us

that education was always moral power. The learner of the teachings of God, was ever a more powerful intellect than the devotee of folly. The education of Enoch, taught him to escape death which rested on all else who lived before the flood: while the education of Noah floated him over the broadest and stormiest ocean that ever belted the green earth, and overwhelmed its millions in an untimely grave. The education of Joseph, led him to the throne of Egypt from the cell of a prison. The education of Moses made him the conqueror of that Egypt, whose stern law had doomed him to death in infancy, and his suffering parents to bondage. Instructed in all the wisdom of Egypt, to which he added the better education of fearing God, his moral power was as capable of overreaching and absorbing the collected learning of the Savins of the Nile, as his serpent rod was of swallowing the rods of the magicians, who vainly essayed to test and measure his immortal science by their puny juggleries and divination. The education of David enabled him to charm the demon that rioted in the bosom of the first king of Israel. It was education that made him Saul's successor, although thereby the stupid doctrines of legitimacy received their earliest blow, but which fell on heads too thick to feel, and to obtuse to learn. The education of Solomon made his words the peerless lessons of wisdom, and enabled him to write the epitaph of Earth on the scroll of Eternity—*Vanity of vanities, all is vanity*. It enabled him to rear a temple, whose beauty astonished the world; to amass wealth and power, at the sight of which other rulers fainted, and had no strength remaining in them. It was education that made Paul the very chief of Apostles. It was this, that made Socrates too powerful a being for sufferance in tyrannical Athens; and Alfred of England, the Washington of that fast anchored isle. It was this that made Voltaire the demon of the French Revolution, stirring the elements of sin with the wand of an Omnipotent Genius, and showing the horror struck age how much like *HELL*, earth could be made under the spells of such a fiendish enchanter. It was education that made Franklin stronger than the thunder, and Fulton the king of the waves.—It was education that made the plain, the affectionate, the generous La Fayette the standard-bearer of popular rights on a continent overshadowed with the frowns of monarchy; that made him in the recent risings against tyranny in France the anchor of Empire, which, without him, might have drifted on the lee-shore of anarchy and misrule, and that has made his memory the polar star of Liberty throughout the world. It was this that made the peerless Washington more than king, greater than monarchs, the disinterested patriarch of virtue and liberty, an honor to human nature, and the brightest star in the hemisphere of the world's glory.

Education has changed the whole constitution of man. Under its wonder-working influence he

sways the scepter of a God, and can exclaim exultingly in the language of the poet,

I am monarch of all I survey,
My right there are none to dispute;
From the centre all round to the sea,
I am lord of the fowl and the brute.

Universal nature lies quiescent in his plastic hands, and its varied material is shaped into forms of beauty and power at his bidding. Education has brought far-distant and mountain separated provinces into fraternal neighborhood; it has made the blast of the steam-floors roar louder than the mountain wind on all our majestic rivers and heaven-reflecting lakes; it has borne its echoes from the beautiful Ohio to the gulf of Mexico, and from the rocky hills of the far-wandering Missouri to the distant Canadas. Education has brought Europe within a few weeks distance of young America; it has chained the Alleghanies to the White Hills of New Hampshire; it has bound the Mississippi with a silver thread to the Hudson; lashed the St. Lawrence to the hoary mans of the Atlantic, and made Lake Superior the transcendent Adriatic of the new world.

Education is as truly the soul of Genius, as the power of creation is its body, or rather, the sensible token which Education gives of its presence. The one is the lighted lamp which illuminates the cavern where Genius delves in the mine of intellectual wealth, while Genius is but the laborer, who, were it not for this spirit lamp, would grope in darkness without end or aim. Education is the wind which stirs the fathomless ocean of thought. It is the principle that ignites the volcanic matter, which dull, and bituminous, and inert before, is now to mount through the riven bowels of the mountains in strangely terrific, yet beautiful jets of fire, over which is thrown the mantle of a pillar of thick cloud.

What Deity gave such a sceptre to man, as he went weeping through the angel-guarded gates of Eden, into a world of tears and death? To this question, the Delphic oracle is dumb, and Mythology has no answer; but the great age of improvement speaks from the observatory of mind and answers me:—Education is both moral and physical power.

With modern educationists, I divide instruction and human culture into its three departments, Physical, Intellectual, and Moral.

Of the first I shall not speak at large. It will not be expected that I should go into the comparative merits of Graham's bread and saw-dust, as articles of diet, or whether the man-machine is capable of more intense thought when starved down to a thinness that the moon will shine through, or when as fat as two single gentlemen rolled into one. Nor, can I, like the giants of Phrenology, lay open the human head before you like a map, showing the latitude and the longitude of the mental, moral and physical man, with all the precision of geographical measurement, pointing out the analogies between the ball on a man's

shoulders, and the opaque globe he inhabits. Nor am I sufficiently acquainted with judicial Phrenology, by which a man can be arrested, tried, and executed, not for his deeds, but for his developments; making him a murderer as soon as they see murder sticking out of his skull, or a thief as soon as they find a villainous bump in some part of a meanly furnished head. All this I leave to abler hands than mine.

But may I not speak of the rise and development of the intellect? That glorious faculty which has inscribed immortality on the destinies of man!

"Of all that live and move and breathe,
Man only rises o'er his birth;
He looks around, above, beneath,
At once the heir of heaven and earth.
What guides him in his high pursuit,
Lightens, illumines, cheers his way,
Discerns the immortal from the brute,
God's image from the mouth of clay?
'Tis knowledge—Knowledge to the soul
Is life and liberty and peace;
And while eternal ages roll,
The joys of knowledge shall increase."

Commencing at a point scarcely perceptible on the map of human existence, the intellect grows to a god-like size; yet it is never monstrous. The larger it grows the more perfect are its proportions. Passion may be of a monstrous growth, but intellect never.

The philosophers of mind, divided though they may be on the topics of an innate moral sense, or of innate ideas in the mind of an infant, are yet united on the doctrine of the adaptation of such a mind for the gradual reception of new ideas, which may be derived from sensible objects in the world around, from parental example, and moral lessons. Inconceivably dim as may be these first glimmerings of intellect, they may be destined to astonish and bless mankind in the progress of their development; they may kindle slowly, yet burn brightly and long.

(To be continued.)

SCHOOL MASTERS.—On the Continent, till lately, the office of school master in country villages was considered one of the lowest employments in society. Even in Prussia, about the middle of the last century all that was required of their school masters who were chiefly mechanics, was to be able to read, say the catechism, sing tolerably a few well-known psalm tunes and to write and cipher a little. Numbers of shepherds employed in keeping sheep, during the winter, assumed the office of teachers of youth. The nobility used generally to bestow the place of school-master, if it was at their disposal, on their valets or grooms as a reward for past services. In many instances the offices of village barber, fiddler, and school-master were conjoined in the same person.—*Dr. Dick.*

Air ceases to reflect light at the height of 45 miles above the surface of the earth.

ACADEMIES AND HIGH SCHOOLS IN VERMONT.

We copy the following statistics from the census of Vermont, for 1840, as given in the Vermont Register for 1842. It is evidently erroneous, however, as to the number of Students; in some instances the number for a term being given, and in others for the whole year:

Towns.	Students.	Towns.	Students.
Bennington, (2)	150	Lyndon,	131
Bradford,	150	Ludlow,	130
Brandon,	80	Manchester,	105
Brattleboro' (2)	245	Middlebury, (2)	70
Brookfield,	50	Montpelier,	201
Brownington,	46	Newbury,	339
Burlington,	104	Norwich, (2)	70
Castleton,	190	Northfield,	30
Chester,	267	Panton,	9
Concord,	40	Peaeham,	135
Corinth,	—	Poultney,	112
Craftsbury,	65	Randolph,	181
Derby,	—	Royalton,	36
Enosburgh,	50	Shaftsbury,	20
Ferrisburgh,	20	Shoreham,	35
Georgia,	18	St. Albans,	80
Guilford,	61	St. Johnsbury,	25
Halifax,	100	Thetford, (2)	176
Hartland,	30	Townshend,	156
Hinesburgh,	102	Tunbridge,	40
Jericho,	50	Waterford,	41
Johnson,	100	Woodstock,	25

Total.

Academies, 49

Students, 4,131

NEWBURY SEMINARY.

The following facts respecting this Institution are taken from the last annual Catalogue.

Officers of Institution and Government.

Rev. OSMON C. BAKER, A. M., Principal, and Teacher of Biblical Literature, and Natural and Moral Science.

Rev. CLARK T. HINMAN, A. B., Teacher of Greek and Mathematics.

J. HARRISON GOODALE, A. B., Teacher of Latin and English Literature.

Miss RACHEL SMITH, Preceptress, and Teacher of French, and the Ornamental Branches.

Miss MARY M. LANG, Teacher of Spanish, and Italian Languages.

Mrs. MARTHA A. HINMAN, Teacher on the Piano Forte.

Number of Students,—Gentlemen, 216

Ladies, 195

Total, 411

Winter Term, 83 Summer Term, 104

Spring Term, 219 Fall Term, 223

Aggregate, 629

Terms and Vacations.—The academical year is divided into four Terms, three of twelve, and

one of eight weeks. The terms will commence as follows:

Fall Term, Aug. 25th, 12 weeks.

Winter Term, Nov. 25th, 12 weeks.

Spring Term, Feb. 24th, 12 weeks.

Summer Term, May 26th, 8 weeks.

The Summer Term will be succeeded by a vacation of five weeks, and the other three by one week each.

Expenses.—Tuition. Common English branches, per week, \$9.27 3-11

All other studies, 0.36 4-11

Ornamental branches, per term, 1.00

Musie, with the use of the Piano

Forte, per term, 8.00

Incidental Expenses, 0.25

Board, in the establishment, including

room-rent and washing per week, 1.50

Tuition fees are not received for a term less than six weeks.

THE ATMOSPHERE.

The weight of the atmosphere is 11,624,914, 803,603, 492,864 lbs. which is equal to an ocean of quicksilver surrounding the whole globe, 30 inches in depth—to an ocean of water, 33 feet in depth, and to a globe of lead sixty miles in diameter.

PESTALOZZI'S SCHOOL.—It is a remarkable circumstance, that neither punishment nor reward is necessary to excite his pupils in their labors.—This is, perhaps, the first instance, in which a school of one hundred and fifty children has succeeded without having recourse to the principles of emulation and of fear. How many bad feelings are spared, when every emotion of jealousy and disappointed ambition is removed from the heart; and when the child sees not in his companions, rivals, nor in his teacher, a judge! There, the object is, not to excel, not to succeed in a competition for superiority, but to make a progress, to advance towards an end at which they all aim with equal integrity and simplicity of intention.—*Madame de Staël.*

THE MIRROR.—An apology is due to our subscribers for the late appearance of the present number. We claim indulgence, as circumstances have occurred which made it impossible for us to furnish the printers with copy at an earlier date.

NOTICE.

From the Postmaster General. Remittances by mail. "A Postmaster may enclose money in a letter to the publisher of a newspaper, to pay the subscription of a third person, and frank the letter, if written by himself."

It is particularly requested that those who have not yet paid for the Mirror for the past year, should immediately forward the money. A word, we trust, to the wise will be sufficient.